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FEDERAL COMMUNICATIONS COMMISSION
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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

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JUN 16 1993

In the Matter of

Allocation of the
219-220 MHz Band for Use by
the Amateur Radio Service

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ET Docket 93-40
RM-7747

FCC - MAIL ROOM

To: The Commission

COMMENTS OF
THE VALLEY EMERGENCY RADIO ASSOCIATION (VERA)
ON
NOTICE OF PROPOSED RULE MAKING
RELEASED: MARCH 22, 1993

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June 11, 1993

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SUMMARY

The Valley Emergency Radio Association (VERA)¹ believes that additional VHF spectrum is required in support of higher speed Amateur Radio packet linking efforts, and wishes to strongly endorse the subject **NOTICE OF PROPOSED RULE MAKING**. The general guidelines discussed in the **NPRM** indicate a recognition of the immediate needs and suggest a workable environment where both current and future requirements can be addressed. As stated in our October 1991 comments on the ARRL Petition (RM-7747), we believe that successful sharing of these frequencies on a secondary basis is very practicable, and can be effected through a properly recognized and supported voluntary coordination process.²

BACKGROUND

Prior to the loss of the Amateur 220-222 MHz spectrum allocation, VERA was active in providing packet radio trunking facilities using frequencies in that band segment. Subsequent attempts to replace those lost facilities have met with limited

¹VERA is a NOT FOR PROFIT Association registered in the State of California. The purpose of the Association is to provide financial support for Amateur Radio facilities and services intended primarily for public service purposes. A demonstrated interest in supporting the public/emergency service aspects of Amateur Radio is a requisite for membership in the organization. In addition to voice repeater and remote base services on the 2M and 1.25M Bands, VERA (in conjunction with K6IYK acting as a private individual) is active in supporting several Amateur Packet Radio network facilities operating on the 222-225 MHz Band in Los Angeles, Orange, Riverside, and Ventura Counties. The Association has been active in this support of the emerging Amateur Packet Radio network for almost a decade and, prior to the loss of the 220-222 MHz band segment, actively provided trunking facilities using those frequencies. The loss of that spectrum has had a very adverse effect on VERA's ability to provide these services.

²Reference Section on "Coordination" in Comments on Petition for Rule Making (RM-7747), VERA

success for a variety of reasons. Primary on the list of those reasons is that there is no comparable alternative spectrum available.

The 220 MHz Band offers propagation characteristics uniquely suited to the mid- to long-range point-to-point trunking requirements of Amateur Packet Radio. In locations like Southern California, the remaining 222-225 MHz Band is so loaded with existing applications that the process of reallocating the remaining space has resulted in turf battles that the Commission is being asked to resolve³. The two-meter band is likewise overloaded and is not appropriate considering the need for frequency diversity and primary user access on that band. Frequencies above 420 MHz offer some relief for very short haul trunking but phase distortion and multi-path associated with those frequencies in mountainous areas such as Southern California are significant problems when working with digital communications.

DETAIL COMMENTS

The following comments on specific area of the NPRM are offered for your consideration:

Paragraph 1 The proposed limitations of **secondary basis** and **point-to-point** connectivity are generally acceptable. We would like the Commission to consider that provisions for alternative transmission modes (such as spread spectrum) may be appropriate in the future.

³See PR Docket 92-289

Paragraph 4 VERA's 220 MHz Band packet resources have been used in **support of emergency communications** on several instances. Possibly one of the most important was the interconnection of the Santa Clara County EOC in Northern California with the California State OES office in Santa Barbara minutes after the San Francisco earthquake in 1989. Despite the failure of most of the local stations, the SIERRA Trunk into Southern California (primarily 220 MHz Nodes) remained in tact and provided communications out of one of the most damaged areas immediately following the event. Twenty minutes later, the Santa Clara EOC regained telephone service and despite the inability to receive calls, they were provided via packet with the telephone number of an agency with emergency supplies in Southern California. An immediate air and ground dispatch of medical equipment was arranged.

Paragraphs 7&8 Radio, modem, and software development for medium and high speed links is being hampered by a lack of available spectrum for **technology development**. We believe that allocation of the 219-220 MHz band for Amateur wideband intercity packet networks will assist in achieving all of the objectives itemized in the NPRM.

In Southern California, the congestion in the 222-225 MHz band is so severe that users of other modes have decided that it is necessary to ask for regulation⁴ in order to guarantee them space. The allocation proposed in this NPRM will provide a similar opportunity for wideband networking and the packet community.

⁴ibid

Paragraph 13 In the interest of providing the maximum opportunity for digital technology development, **VERA requests that all forms of digital communications be authorized on the proposed band.** In the multi-media world of the future, Amateurs will want to experiment with many forms of digital communications and the Amateur networks will need to carry data, image, video, and voice. The proposed allocation will offer a place for all of this to be developed and tested. Through the use of properly coordinated and engineered systems, including highly directional antennas, **Amateurs should be able to accomplish all of this and not interfere with any of the primary services.**

Paragraphs 14-18 The bases for selection of 219-220 MHz appear sound and we agree that the probability for compatible operations is highest in this segment.

Paragraphs 19-28 The proposed 50W PEP power limit is considered **adequate** to provide the connectivity expected on this band. Typically, with the use of highly directional antennas, we anticipate that the link transmitters will operate at a much lower output power. Because VERA does not believe there is a significant difference between the Amateur Novice and Technician Licenses today⁵, we recommend that Novices be granted access to this band and that no special power limitation be established for that class of license.

VERA believes that the notification provisions designed to protect AMTS stations are appropriate, **however the requirement that written approval be obtained**

⁵See "Summary of Position - Paragraph 3" in Comments on PR Docket 92-289, VERA to the Commission, dated February 20, 1993. It was pointed out at that time that there is little difference between the current Novice and No-code Technician license, and that VERA believes the technical content of both exams should be strengthened if these operators are going to be allowed the types of privileges under discussion.

from an AMTS station when located within 50 miles does suggest difficulties.

It is assumed that the concept of performing a technical coordination with the AMTS station was not recommended because the AMTS station operator would not necessarily be technically qualified to determine the adequacy of the Amateur proposal. By the same token, it is not desirable that a non-technical individual be asked to "approve" a request he isn't qualified to review (especially if there is no basis for approval or denial defined). Recognizing these limitations, and knowing that the compatibility of operations can only really be determined through empirical testing, it would seem more appropriate if the notification procedure were applicable to all situations within 240 km. In the case of locations within 80 km of each other, the Amateur operator would also be required to participate in a demonstration (compatibility) test for a specified period (e.g., 60 days). During this period the Amateur would coordinate frequently with the AMTS station operator to insure that no interference issues were outstanding. After that time, **the AMTS station operator would be expected to grant the Amateur written approval unless an interfering condition were declared.** The requirement that an interfering transmitter must cease operations immediately would not change.

VERA recommends that the local recognized Amateur Frequency Coordinator be encouraged to prepare a Band Plan for the 219-220 MHz Band, and to facilitate a formal coordination program for users of this band. In Southern California the 220 MHz Spectrum Management Association (220SMA) has indicated a willingness to include this segment in their Band Planning process, and would delegate the responsibility for specific coordination efforts to the Southern California Digital Communications Council (SCDCC), the special interest group

authorized to facilitate coordinated use of the Band Plan designated digital frequencies⁶.

It is anticipated that **Identification of licensed AMTS Stations** could be a problem to the individual Amateur. VERA would propose that the regulations describe what steps an Amateur is expected to take in identifying local AMTS station licenses, and the Commission is encouraged to make available such data to recognized frequency coordination bodies and the ARRL Headquarters.

VERA desires that the provisions of Section 97.201(c) be exercised by the Commission, when appropriate. **Continued success of Amateur self-coordination efforts are dependent upon periodic (and fair) Commission support⁷.**

Paragraph 29 See response to Paragraphs 19-28 above.

Paragraph 30 The Commission has indicated in the NPRM that they wish to "foster technological experimentation and innovation,and facilitate the construction of regional and/or nationwide packet data backbone networks." In this regard, **it is recommended that all reference to maximum baud rate be excluded in this rule making.** Modern signaling techniques make it possible to achieve significantly higher effective baud rates within a specific bandwidth, and the proposed limits are likely to be encumbering within the very near future. It is

⁶This writer is the current President of the 220SMA and a member of the Board of Directors of the SCDCC. The coordination issues associated with this NPRM have been discussed with the 220SMA Frequency Board and the SCDCC Resource Management Committee (the two groups specifically responsible for coordination activities), and both organizations have indicated support for the procedures described herein.

⁷Supra, Note 2

likewise recommended that maximum bandwidth be specified as a function of the distance of the center carrier from the band edge, rather than as an absolute value. (It is also desired that no minimum signaling rates be defined.)

As mentioned earlier above, the Commission is likewise requested to consider the applicability of Amateurs using Spread Spectrum techniques in this band.

CONCLUSION

VERA believes that because of the adverse effects of PR Docket 87-14, the 1.25M band usage pressures existing in places like Southern California, the unavailability of alternative frequencies with similar propagation characteristics, and the need to provide Amateur Radio a place in the VHF spectrum for wideband (100 kHz) and narrowband trunking channels, **it is important for the Commission to act favorably on this NPRM as soon as possible.** This was our opinion almost two years ago and continues to be our position.